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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,452	12/06/2000	Daniel J. Miller	MS1-632US	1212

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EXAMINER	
NGUYEN, VAN H	

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/732,452	MILLER ET AL.
	Examiner	Art Unit
	VAN H NGUYEN	2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5/6/03, 11/24/03 12/29/03, 2/9/04, 4/12/04, 7/6/04, and 5/18/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-26 are presented for examination.

2. The cross reference related to the application cited in the specification must be updated (i.e., update the relevant status, with patent numbers where appropriate, on the specification pp.7-8). Correction is required.

Specification

3. The abstract of the disclosure is objected to because the abstract appears to be written as if it were a claim and is not in narrative form. See MPEP § 608.01(b).

Appropriate correction is required.

Claim Objections

4. Claims 2-10, 12-18, and 20-26 are objected to because of the following informalities:

(i) Dependent claims 2-8 should start with "the method" as they are referring to "a method" of independent claim 1.

(ii) "a method" (in claim 9, line 2 and in claim 10, line 5) should read "the method".

(iii) Dependent claims 12-18 should start with "the development system" as they are referring to "a development system" of independent claim 11.

(iv) Dependent claims 20-26 should start with "the matrix switch object" as they are referring to "a matrix switch object" of independent claim 19.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following phrases lack antecedent basis:

(i) "the negotiated buffers" (claim 1, line 6 and claim 11, line 7)

(ii) "the adjacent buffers" (claim 1, line 7 and claim 11, line 8)

(iii) "the inputs" and "the "output" (claim 1, line 8)

(iv) "the input/output associations" (claim 3, line 1)

(v) "the matrix switch" (claim 19, line 6)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Beaulier et al.** (U.S. 5,162,904) in view of **Littlefield** (U.S. 4,220,823).

9. As to claim 1, Beaulier teaches the invention substantially as claimed including a method of generating a development project including at least a matrix switch (abstract, lines 1-4) and one or more adjacent objects (see fig. 3), the method comprising:

establishing an initial rendering of the development project (col.4, lines 8-13); and negotiating buffer size and attribute characteristics between an input/output of the matrix switch and an input/output of adjacent objects (col.4, lines 18-32 and fig. 3), wherein the negotiated buffers are utilized to communicate media content between the matrix switch and the adjacent buffers (col.5, line 47 col.6, line 40).

Beaulier does not explicitly teach a common buffer.

Littlefield teaches a common buffer (col.3, lines 36-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Littlefield with Beaulier because Littlefield's teachings would have provided the capability for improving switching capability of the matrix switch implemented in the digital video processing system.

10. As to claim 2, Beaulier teaches modifying input/output associations between objects in the initial rendering of the development project based at least in part on the negotiation (col.4,

lines 18-24).

11. As to claim 3, Beaulier teaches the input/output associations are communicative connections through one or more buffers (fig.3 and associated text).

12. As to claim 4, Beaulier teaches a separate buffer for each input and output of each object within the project (fig. 3). Refer to claim 1 above for rejection of a shared buffer.

13. As to claim 5, Beaulier teaches the matrix switch attempts to be an allocator for buffers shared with each of its input(s) and output(s) (col.5, line 47- col.6, line 40).

14. As to claim 6, Beaulier teaches if the matrix switch cannot be an allocator for one or more of its input(s) or output(s), such input(s) and output(s) do not share a common buffer with objects coupled thereto (col.6, lines 42-55).

15. As to claim 7, Beaulier teaches memory copy operations are utilized to communication information to/from input(s) and/or output(s) of the matrix switch for which the switch is not the allocator (col.4, lines 45-61).

16. As to claim 8, Beaulier teaches the development project is a media processing project rendered as a filter graph of processing chains (col.10, lines 11-15).

17. As to claim 9, Beaulier teaches a plurality of executable instructions (col.4, lines 9-13).

18. As to claim 10, Beaulier teaches a computing system (col.3, lines 62-66), a storage medium (col.4, lines 22-23) an execution unit (col.4, lines 41-44).

19. As to claim 11, it is directed to a system for performing the method of claim 1, and is similarly rejected under the same rational.

20. As to claim 12, Beaulier teaches each of the objects comprising the one or more

processing chains attempt to negotiate buffer size and attribute characteristics (col.4, lines 18-32 and fig. 3). Refer to claim 1 above for rejection of a shared buffer

21. As to claim 13, Beaulier teaches the objects establish shared buffers between an input of one object and the output of an upstream object upon negotiating mutually acceptable buffer size and attribute characteristics (fig.3 and associated text).

22. As to claim 14, Beaulier teaches the development project is established by a render engine, exposed from an operating system executing on a computing system implementing the development system (fig. 1 and associated text).

23. As to claim 15, Beaulier teaches the render engine facilitates negotiation between objects of the processing chains of buffer size and attribute requirements (col.4, lines 18-32 and fig. 3). Refer to claim 1 above for rejection of a shared buffer.

24. As to claim 16, Beaulier teaches the matrix switch negotiates to be an allocator of buffers between the matrix switch and any object coupled to its input and output to facilitate communication between the matrix switch and external objects as well as between its input(s) and output(s) without the need for a memory copy operation (col.5, line 47- col.6, line 40).

25. As to claim 17, Beaulier teaches if the matrix switch is not able to be an allocator of a buffer for an input or an output of the matrix switch, a memory copy operation will be required to communicate with that input or output (col.8, lines 23-34).

26. As to claim 18, Beaulier teaches a memory copy operation is required to communicate information to/from an matrix switch input and/or output for which the matrix switch is not an allocator of a buffer associated with that input and/or output, even if the communication is

internal to the matrix switch itself (fig.4 and associated text).

27. As to claim 19, the rejection of claim 1 above is incorporated herein in full. Additionally, Beaulier further teaches a dynamically determined number of inputs to receive content from one or more processing chains (col.4, lines 9-13 and col.5, line 48-col.6, line 20); and a dynamically determined number of outputs, selectively coupling one or more of the dynamically determined inputs to one or more of the dynamically determined outputs (col.4, lines 9-13 and col.6, lines 21-40).

28. As to claim 20, Beaulier teaches if the matrix switch cannot negotiate an agreed upon buffer size and attribute characteristics between an input/output and an object coupled to the input/output, communication with the input/output is performed using a memory copy operation (col.5, line 47- col.6, line 40).

29. As to claim 21, Beaulier teaches an input/output coupling the object to the input/output of the matrix switch each have an independent buffer, wherein communication occurs between the object and the matrix switch by copying content from one buffer to another buffer (fig.3 and associated text).

30. As to claim 22, Beaulier teaches communication between the input/output of the matrix switch and any other input/output, internal or external to the matrix switch is performed using a memory copy operation (col.5, line 47- col.6, line 40).

31. As to claim 23, Beaulier teaches if an input/output of the matrix switch and an input/output of an object coupled to the input/output of the matrix switch do agree upon buffer size and attribute requirements (fig.3 and associated text). Refer to claim 1 above for rejection of a shared buffer.

32. As to claim 24, Refer to claim 1 above for rejection of a shared buffer.

33. As to claim 25, Beaulier teaches matrix switch identifies buffer size and attribute requirements of all objects coupled to an input/output of the matrix switch, and attempts to negotiate a common buffer size and attribute requirement for all switch input(s) and output(s) (col.4, lines 28-44).

34. As to claim 26, Beaulier teaches a plurality of buffers shared between the dynamically determined inputs and the dynamically determined outputs to buffer processed media content for subsequent use by objects coupled to the matrix switch (fig. 3 and associated text).

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ebihara (U.S. 6233735) teaches "Near video-on-demand system and broadcasting method therefor."

- Athenes et al. (U.S. 6064670) teaches "Matrix for switching between two multiplex groups."

- Chao (U.S. 5179552) teaches "Crosspoint matrix switching element for a packet switch."

- Nakasaka et al. (U.S. 5995505) teaches "matrix switcher."

- Thompson et al. (U.S. 5990981) teaches "Modular video signal matrix switcher with color-coded components."

- Takamori (U.S. 5896181) teaches "Video signal processing apparatus with matrix switching capability."

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (703) 306-5971. **After mid-October, 2004, the examiner can be reached at (571) 272-3765.** The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The examiner can also be reached on alternative Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VHN

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